

Title of Invention: Multi-Axes Tool Compensation -- 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

Inventor: Gary John Corey

Inventor's Phone No.: (909) 674-8100

Figure 1: Tool Parameter Computer Screen for Defining Multi-Axes Tool Compensation and 3D Tool Characteristics

**CNC Machine Tool Parameters Ver 12**

Tool Parameters							
	Size	Horz	Vert	Height	Wear	Custom1	Custom2
1	0.25	0.0	0.0	0.0	0.0	0	0
2	0.0	0.0	0.0	0.0	0.0	0	0
3	0.0	0.0	0.0	0.0	0.0	0	0
4	0.0	0.0	0.0	0.0	0.0	0	0
5	0.0	0.0	0.0	0.0	0.0	0	0
6	0.0	0.0	0.0	0.0	0.0	0	0
7	0.0	0.0	0.0	0.0	0.0	0	0
8	0.0	0.0	0.0	0.0	0.0	0	0
9	0.0	0.0	0.0	0.0	0.0	0	0
10	0.0	0.0	0.0	0.0	0.0	0	0

Tool Definitions (Solid Mode Only)					
	Corner radius	Bottom angle	Side angle	Length	Type
1	0.0	0.0	0.0	3.0	0
2	0.0	0.0	0.0	0.0	0
3	0.0	0.0	0.0	0.0	0
4	0.0	0.0	0.0	0.0	0
5	0.0	0.0	0.0	0.0	0
6	0.0	0.0	0.0	0.0	0
7	0.0	0.0	0.0	0.0	0
8	0.0	0.0	0.0	0.0	0
9	0.0	0.0	0.0	0.0	0
10	0.0	0.0	0.0	0.0	0

Machine Offsets								
	X	Y	Z	4	5	6	7	8
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Feature Offsets						
	G54	G55	G56	G57	G58	G59
X	0.0	0.0	0.0	0.0	0.0	0.0
Y	0.0	0.0	0.0	0.0	0.0	0.0
Z	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0

**Optional Settings**

- ☐ Dry Run (Disable Z, Spindle, Feed Mode)
- ☐ Bitmap G code Display (Speed Penalty)
- ☒ Graphics: Solids vs Wire Frame
- 0.001 Tolerance (math and positioning)
- / Block Skip Character
- Teach.X Teach File Name (No Paths)

**Fanuc Arc Centers**

- ☒ Absolute (0)
- ☐ Incremental (1)
- ☐ R for Radius (2)

**Solid Stock**

Begin Z @ 0.0

Extra Stock 1.0

F4 key F3 key F2 key F1 key

F5 Tool Definitions F6 Tool Life F7 Tool Photos F8 Convert to Metric F9 Convert to Inch